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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,127	06/25/2004	Gang-Hoon Lee	HI-0204	7386
34610	7590	06/15/2006	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			KYLE, MICHAEL J	
			ART UNIT	PAPER NUMBER
			3677	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/500,127

Applicant(s)

LEE ET AL.

Examiner

Michael J. Kyle

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/25/04

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4-6, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katagiri (U.S. Patent No. 5,598,607) in view of European Patent Application 0080979 ("EPO '979"). With respect to claim 1, Katagiri discloses a pivotal plate (42), a fixing plate (11), and a rotational shaft (14) inserted to vertical planes of the pivotal plate and fixing plate. A frictional member (15) is mounted around the periphery of the shaft (14), both ends of which have a tightening plane on which an inserting hole is formed (43, 44). A tightening member (20) is inserted into the hole, thereby generating a braking force. Katagiri fails to disclose a plate shaped spacer between the tightening planes.

3. EPO '979 teaches a hinge comprising having parallel tightening planes (5, see figure 3), a tightening member (9) and a plate shaped spacer (6, 6') between the tightening planes. EPO '979 uses the spacer (6) to adjust the force between the tightening planes. Implementing such a space plate into Katagiri between the tightening planes would allow for adjustable tightening of the members and help apply a constant force to the shaft. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Katagiri as taught by EPO '979, such that Katagiri includes a spacer plate, in order to provide an adjustable and constant tightening force to the shaft.

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4. With respect to claim 2, Katagiri discloses the frictional member (15) is formed on a center of the shaft (14).

5. With respect to claims 4 and 5, Katagiri discloses a washer (71) inserted between contact planes of the fixing and pivotal plates and a frictional housing (19) formed around an outer periphery of the frictional member (15).

6. With respect to claim 6, Katagiri discloses a fixing portion of non-circular shape formed on both ends of the shaft (at 12a).

7. With respect to claims 8 and 9, Katagiri discloses a washer (71) of plastic material inserted on a contact plane between the fixing and pivotal planes, and the frictional member is made of engineering plastic.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katagiri in view of EPO '979 as applied to claim 1 above, and further in view of Lu (U.S. Patent No. 6,018,847).

Neither Katagiri nor EPO '979 discloses a guiding protuberance or guiding portion as claimed.

Lu teaches a hinge comprising a fixing plate (50) and a pivot plate (40). A guiding protuberance (62) is formed on an outside vertical plane of the fixing plate, and a pivotal guiding portion in an arc shape (33) is formed on a vertical plane of the pivot plate. The protuberance is received in the guiding portion. This arrangement limits the range of motion of the hinge. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Katagiri and EPO '979 to include this arrangement to limit the range of motion of Katagiri's hinge.

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9. Claims 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katagiri in view of Lu. With respect to claims 10 and 15, Katagiri discloses a pivotal plate (42), fixing plate (11), rotational shaft (14), frictional member (15), and tightening member (20) fitted into a hole (43, 44). Katagiri fails to disclose an elastic member and the guiding protuberance and portion.

10. Lu teaches a hinge comprising an elastic member (70), a fixing plate (50), and a pivot plate (40). A guiding protuberance (62) is formed on an outside vertical plane of the fixing plate, and a pivotal guiding portion in an arc shape (33) is formed on a vertical plane of the pivot plate. The protuberance is received in the guiding portion. This arrangement limits the range of motion of the hinge. The elastic member biases the arrangement to a preferred position (column 2, lines 35-45). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Katagiri and EPO '979 to include this arrangement to limit the range of motion of Katagiri's hinge and bias the hinge to a preferred position.

11. With respect to claims 11, 12, 16, and 17, Lu further shows the elastic member (70) to be a torsion spring in a coil shape, and that one end of the member is hooked on a horizontal plane (in 52) of the fixing plate (50) and the other extended to an inside from a horizontal plane (in 37) of the pivotal plate.

12. With respect to claims 13, 14, 18, and 19, Lu further teaches a spacer (20) preventing contact between a shaft (10) and elastic member. Katagiri discloses the frictional member to be of engineering plastic.

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13. Claim 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Katagiri in view of Lu as applied to claim 15 above, and further in view of EPO '979. Neither Katagiri nor Lu discloses a plate shaped spacer as claimed.

14. EPO '979 teaches a hinge comprising having parallel tightening planes (5, see figure 3), a tightening member (9) and a plate shaped spacer (6, 6') between the tightening planes. EPO '979 uses the spacer (6) to adjust the force between the tightening planes. Implementing such a space plate into Katagiri between the tightening planes would allow for adjustable tightening of the members and help apply a constant force to the shaft. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Katagiri and Lu as taught by EPO '979, such that Katagiri includes a spacer plate, in order to provide an adjustable and constant tightening force to the shaft.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are cited to further show the state of the art with respect to friction hinges: Sloan, Vickers, Nakamura, Chiang, Huong, Kaneko, and Fujita.

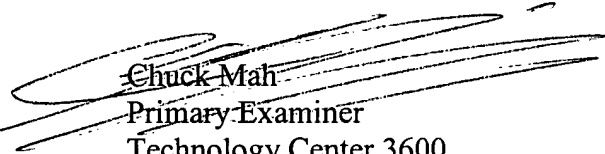
16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Kyle whose telephone number is 571-272-7057. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

mk



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